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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,958	12/20/2000	Michael Neal	DEM1P001	7264

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ART UNIT	PAPER NUMBER
3628	

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/741,958	NEAL ET AL.
	Examiner	Art Unit
	Akiba K. Robinson-Boyce	3628

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3)☐ Information Disclosure Statement(s) (PTO/SB/08)	5)☐ Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6)☐ Other: _____ .

DETAILED ACTION

Status of Claims

1.   Due to communications filed 10/19/06, the following is a final office action.

Claims 1, 2, 4, and 6 have been amended. Claims 1-16 are pending in this application

and have been examined on the merits. Claims 1-16 are rejected as follows.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 4, 5, 14, 15, are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ouimet et al (US 6,094,641), and further in view of Ouimet et al (US

6,078,893).

        As per claim 1, Ouimet '641 discloses:

        an econometric engine for modeling internal sales as a function of price to create

a sales model..., (Col. 4, lines 35-44, [demand model gives predicted sales of an item

based on price], w/ col. 8, lines 23-29, shows visibility model based on sales is

constructed for prices in a particular store, thereby making these sales internal);

a financial model engine for modeling costs to create a cost model, (col. 4, lines

52-53, [pricing model], which includes an activity-based costing module, (Col. 2, lines 1-

12, including visibility, and taking the promotional cost into account when modifying the

demand model, in this case, the module is inherent with Ouimet since Ouimet's system

is computer-implemented and in order to create models, a module is necessary in a

computerized system);

wherein said cost model determines a total cost for each product in a given

demand group in a given store for a given time period by computing a cost for each

selected costing activity... (Col. 2, lines 5-17, determining the promotional cost by

determining both optimum price and promotional activity, where the promotional cost

represents the cost for each selected costing activity); and

an optimization engine coupled to the econometric engine and financial model

engine to receive input from the econometric engine and financial model engine,

wherein the optimization engine generates the preferred set of prices, (Col. 5, lines 45-

48, [using fitted, modified demand model to determine price that will maximize profits,

{optimization}]).

Ouimet '641 fails to disclose a configuration to receive variable costs and fixed

costs, but does disclose a pricing module in col. 4, lines 52-53.

However, Ouimet '893 discloses:

configured to receive variable costs and fixed costs, (col. 6, lines 42-61, shows

that when a user selects a market model, it can be one with no price change or one that

does not contain adjustable market model parameters, also shows the model using

adjustable parameters, in this case, the parameters are directly proportional to the

variables, therefore, if the parameters are adjusted, so are the variables such as price).

Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that

market models can be represented by using values that change/are adjustable, and

also do not need to contain adjustable values.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to receive variable costs and fixed costs with the motivation of

creating both a fixed or variable market model.

Ouimet '641 also does not disclose wherein said econometric engine clusters

said plurality of products into discrete sets of related products whereby each said set is

made up of highly substitutable related products, further wherein said each said set is

defined by a user such that each said set is unique to said user, but does disclose

receiving pricing parameters for a plurality of products as inputs in col. 6, lines 29-67.

However, Ouimet '893 discloses:

wherein said econometric engine clusters said plurality of products into discrete

sets of related products whereby each said set is made up of highly substitutable

related products, further wherein said each said set is defined by a user such that each

said set is unique to said user, (Col. 5, lines 57-64, shows items or products are

analyzed according to a given group, also, col. 8, lines 28-38, shows market is broken

into well defined groups for the selection of a model, w/ col. 10, lines 27-37, shows

sales of one item can depend on the sales of other items which lead to the demand for

each item in a given group, where each set is represented by a group, w/ col. 2, lines

19-32, shows that a definition derived from figure-of merit functions, is selected by a user to use in fitting the model parameters [for a consumer demand model], in this case, each group [set] is unique to said user since the user uses a certain definition for use in the selection of a model). Ouimet '893 discloses these limitations in an analogous art for the purpose of showing that products are in particular groups, and are therefore related.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the econometric engine clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products with the motivation of allowing a particular set of related products to be evaluated, and for preferred prices to be computed from the evaluation.

Neither Ouimet '641 nor Ouimet '893 disclose where costing activity includes labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing, but Ouimet '641 does disclose determining the promotional cost by determining both optimum price and promotional activity, where the promotional cost represents the cost for each selected costing activity Col. 2, lines 5-17, thereby making the above limitations obvious since labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing are all commonly utilized activities in product development that influence the actual cost for developing the product.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include labor, stocking time, transportation, receiving, inventory,

bagging, checkout and invoicing in costing activities with the motivation of including

factors that will affect the cost of developing a product.

As per claim 4, Ouimet '641 discloses:

creating an internal sales model..., (Col. 4, lines 35-44, [demand model gives

predicted sales of an item based on price], w/ col. 8, lines 23-29, shows visibility model

based on sales is constructed for prices in a particular store, thereby making these

sales internal);

creating a cost model, (col. 4, lines 52-53, [pricing model], which includes

activity-based costing, Col. 2, lines 1-12, including visibility, and taking the promotional

cost into account when modifying the demand model);

wherein said cost model determines a total cost for each product in a given

demand group in a given store for a given time period by computing a cost for each

selected costing activity...(Col. 2, lines 5-17, determining the promotional cost by

determining both optimum prince and promotional activity, where the promotional cost

represents the cost for each selected costing activity);

generating the preferred set of prices for the plurality of products based on the

sales model and cost model, (Col. 5, lines 45-48, [using fitted, modified demand model

to determine price that will maximize profits, {optimization}]).

Ouimet '641 fails to disclose the activity-based costing including fixed costs and

variable costs, but does disclose a pricing module in col. 4, lines 52-53.

However, Ouimet '893 discloses:

the activity-based costing including fixed costs and variable costs, (col. 6, lines 42-61, shows that when a user selects a market model, it can be one with no price change or one that does not contain adjustable market model parameters, also shows the model using adjustable parameters, in this case, the parameters are directly proportional to the variables, therefore, if the parameters are adjusted, so are the variables such as price). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that market models can be represented by using values that change/are adjustable, and also do not need to contain adjustable values.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to receive variable costs and fixed costs with the motivation of creating both a fixed or variable market model.

Ouimet '641 also does not disclose wherein said internal sales model clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products, further wherein said each said set is defined by a user such that each said set is unique to said user but does disclose receiving pricing parameters for a plurality of products as inputs in col. 6, lines 29-67.

However, Ouimet '893 discloses:

wherein said internal sales model clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products, further wherein said each said set is defined by a user such that each said set is unique to said user, (Col. 5, lines 57-64, shows items or products are analyzed according to a given group, also, col. 8, lines 28-38, shows market is broken

into well defined groups for a selection of a model, w/ col. 10, lines 27-37, shows sales

of one item can depend on the sales of other items which lead to the demand for each

item in a given group, w/ col. 2, lines 19-32, shows that a definition derived from figure-

of merit functions, is selected by a user to use in fitting the model parameters [for a

consumer demand model], in this case, each group [set] is unique to said user since the

user uses a certain definition for use in the selection of a model). Ouimet '893 discloses

these limitations in an analogous art for the purpose of showing that products are in

particular groups, and are therefore related.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention for the econometric engine to cluster said plurality of products into

discrete sets of related products whereby each said set is made up of highly

substitutable related products, and further wherein said each said set is defined by a

user such that each said set is unique to said user with the motivation of allowing a

particular set of related products to be evaluated, and for preferred prices to be

computed from the evaluation.

Neither Ouimet '641 nor Ouimet '893 disclose where costing activity includes

labor, stocking time, transportation, receiving, inventory, bagging, checkout and

invoicing, but Ouimet '641 does disclose determining the promotional cost by

determining both optimum price and promotional activity, where the promotional cost

represents the cost for each selected costing activity Col. 2, lines 5-17, thereby making

the above limitations obvious since labor, stocking time, transportation, receiving,

inventory, bagging, checkout and invoicing are all commonly utilized activities in product development that influence the actual cost for developing the product.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing in costing activities with the motivation of including factors that will affect the cost of developing a product.

As per claim 5, Ouimet '641 discloses:

creating an internal sales model for each discrete sets of related products...for a given time period in a given store, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price], w/ col. 8, lines 23-29, shows visibility model based on sales is constructed for prices in a particular store, thereby making these sales internal);

for modeling sales of each discrete sets of related products for a given time period..., (Col. 5, lines 24-31, shows a demand model for a promotional activity that was occurring at the time of sale);

Ouimet '641 fails to disclose creating a plurality of discrete sets of related products whereby each said set is made up of highly substitutable related products, further wherein each discrete sets of related products is a set of at least one product and wherein at least one of the discrete sets of related products a set of at least two products, but does disclose utilizing demand models to predict prices in the abstract, lines 1-5.

However, Ouimet '893 discloses:

creating a plurality of discrete sets of related products whereby each said set is

made up of highly substitutable related products, further wherein each discrete sets of

related products is a set of at least one product and wherein at least one of the discrete

sets of related products a set of at least two products, (Col. 5, lines 57-64, shows items

or products are analyzed according to a given group, also, col. 8, lines 28-38, shows

market is broken into well defined groups, w/ col. 10, lines 27-37, shows sales of one

item can depend on the sales of other items which lead to the demand for each item in

a given group). Ouimet '893 discloses these limitations in an analogous art for the

purpose of showing that products are in particular groups, and are therefore related.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to create a plurality of discrete sets of related products whereby

each said set is made up of highly substitutable related products, further wherein each

discrete sets of related products is a set of at least one product and wherein at least one

of the discrete sets of related products a set of at least two products.

Ouimet '641 fails to disclose creating a model for determining the fraction of

internal sales of each discrete set of related products made up by each product for said

time period, but does disclose the utilization of a demand model to optimize prices.

However, Ouimet '893 discloses:

creating a model for determining the fraction of internal sales of each discrete set

of related products made up by each product for said time period, (col. 8, lines 9-13,

shows demand parameter can depend on the degree to which the relative portion of the

sales history is free of noise, where the relative portion is analogous to the fraction of

internal sales, lines 35-37, [maximize market share by using demand model by breaking up market into smaller well-defined groups]). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that a fraction or portion of the market share can be modeled and maximized by using the demand model.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to create a model for determining the fraction of internal sales of each discrete set of related products made up by each product for said time period with the motivation of determining a fraction or portion of market shares according to categories.

4.   Claims 2, 3, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,094,641) as applied to claim 1 above, and further in view of Ouimet et al (US 6,078,893), and further in view of Ouimet et al (US 6,308,162).

As per claim 2, Ouimet '641 discloses:

a price calculator connected to...the financial model engine, and the econometric engine, wherein the price calculator determines the preferred set of prices based on..., the sales model, and the cost model, (Col. 8, lines 18-20, [shows calculating], col. 5, lines 50-55 and 60-65, [see equations listed where calculating is done via the equations]);

Ouimet '641 fails to disclose further wherein said price limiting strategic considerations constrain the preferred set of prices to fall within limits conforming to business strategy, wherein said strategy implementation module is a natural language

based rules engine which translates said price limiting strategic considerations into rules used by said price calculator, but does disclose determining a preferred set of prices as disclosed above.

However, Ouimet '893 discloses:

further wherein said rule parameters constrain the preferred set of prices to fall within limits conforming to business strategy, wherein said strategy implementation module is a natural language based rules engine which translates said price limiting strategic considerations into rules used by said price calculator, (Col. 1, lines 32-57, shows use of rule-based approach, and using a model-based approach to affect pricing where tuning of a demand model is done for fluctuations, col. 1, lines 32-35, shown that simple rules-based approaches are known in the art, therefore, the use of natural language based rules is obvious with Ouimet '893 since the natural language based rule is a simple rules-based approach), Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that rules are implemented when determining prices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to use rule parameters to constrain the preferred set of prices to fall within limits conforming to business strategy with the motivation of showing that prices can be determined according to a set of rules.

Neither Ouimet '641 nor Ouimet '893 disclose a strategy implementation module, which stores a plurality of price limiting strategic considerations, but Ouimet '641 does

disclose a routine in col. 6, lines 6-8, where rules must be present in order to successfully process the routine.

However, Ouimet '162 discloses the following:

a strategy implementation module, which stores a plurality of price limiting strategic considerations, (col. 1, lines 30-34, [rule based approach], w/ col. 4, lines 2-15, shows strategic constraint used to set prices, or col. 5, lines 65-col. 6, line 11, shows when a retailer would like his or her prices to be perceived as being lower than other retailers, this "price image" is an example of a strategic constraint). Ouimet '162 discloses this limitation in an analogous art for the purpose of showing that rules are used in an approach to optimize models, and strategic constraints are used to limit prices as being lower than other retailers.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize a strategy implementation module, which stores a plurality of price limiting strategic considerations with the motivation of going through the process of optimizing models to determine prices in a logical manner, and to strategically set prices.

As per claim 3, Ouimet '641 discloses:

further comprising a support tool connected to the optimization engine wherein the support tool receives the preferred set of prices from the optimization engine and provides a user interface to a client, wherein the user interface provides the preferred set of prices to the client, (col. 6, lines 17-26, [provided with list], w/ Fig. 1, {102}, [display]).

5.   Claims 6-13, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ouimet et al (US 6,094,641) and further in view of Ouimet et al (US 6,078,893), and

further in view of Hartman et al (6,725,208).

As per claim 6, Ouimet et al '641 discloses:

an econometric engine for modeling internal sales as a function of price to create

an internal sales model..., (Col. 4, lines 35-44, [demand model gives predicted sales of

an item based on price], w/ col. 8, lines 23-29, shows visibility model based on sales is

constructed for prices in a particular store, thereby making these sales internal);

a financial model engine for modeling costs to create a cost model which

includes an activity-based costing module configured to receive variable costs and fixed

costs, where said cost model determines a total cost for each product in a given

demand group in a given store for a given time period by computing a cost for each

selected costing activity...(col. 4, lines 52-53, [pricing model], which includes an activity-

based costing module, Col. 2, lines 1-12, including visibility, and taking the promotional

cost into account when modifying the demand model, in this case, the module is

inherent with Ouimet since Ouimet's system is computer-implemented and in order to

create models, a module is necessary in a computerized system); and

an optimization engine coupled to the econometric engine and financial model

engine to receive input from the econometric engine and financial model engine,

wherein the optimization engine generates the preferred set of prices, (Col. 5, lines 45-

48, [using fitted, modified demand model to determine price that will maximize profits,
{optimization}]).

Ouimet '641 also does not disclose further wherein said econometric engine
clusters said plurality of products into discrete sets of related products whereby each
said set is made up of highly substitutable related products, further wherein said each
said set is defined by a user such that each said set is unique to said user, but does
disclose receiving pricing parameters for a plurality of products as inputs in col. 6, lines
29-67.

However, Ouimet '893 discloses:

wherein said econometric engine clusters said plurality of products into discrete
sets of related products whereby each said set is made up of highly substitutable
related products, (Col. 5, lines 57-64, shows items or products are analyzed according
to a given group, also, col. 8, lines 28-38, shows market is broken into well defined
groups for the selection of a model, w/ col. 10, lines 27-37, shows sales of one item can
depend on the sales of other items which lead to the demand for each item in a given
group, w/ col. 2, lines 19-32, shows that a definition derived from figure-of merit
functions, is selected by a user to use in fitting the model parameters [for a consumer
demand model], in this case, each group [set] is unique to said user since the user uses
a certain definition for use in the selection of a model). Ouimet '893 discloses these
limitations in an analogous art for the purpose of showing that products are in particular
groups, and are therefore related.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the econometric engine clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products, and further wherein said each said set is defined by a user such that each said set is unique to said user, with the motivation of allowing a particular set of related products to be evaluated, and for preferred prices to be computed from the evaluation.

Neither Ouimet '641 nor Ouimet '893 disclose where costing activity includes labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing, but Ouimet '641 does disclose determining the promotional cost by determining both optimum price and promotional activity, where the promotional cost represents the cost for each selected costing activity Col. 2, lines 5-17, thereby making the above limitations obvious since labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing are all commonly utilized activities in product development that influence the actual cost for developing the product.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include labor, stocking time, transportation, receiving, inventory, bagging, checkout and invoicing in costing activities with the motivation of including factors that will affect the cost of developing a product.

Neither Ouimet et al '641, nor Ouimet '893 disclose based on Bayesian modeling, wherein data from at least two stores is combined to obtain a Bayesian estimation of the internal sales model, further wherein said econometric engine clusters

said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products, but Ouimet et al '641 does disclose utilizing demand models to optimize prices in the abstract, lines 1-5.

However, Hartman et al discloses:

based on Bayesian modeling, wherein data from at least two stores is combined to obtain a Bayesian estimation of the internal sales model, further wherein said econometric engine clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products, (Abstract, lines 1-4, shows Bayesian modeling used for optimization, and col. 8, line 62-col. 9, line 3, utilizing the weighted average of multiple models). Hartman et al discloses this limitation in an analogous art for the purpose of show in that Bayesian modeling can be used to determine optimal prices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize Bayesian modeling wherein data from at least two stores is combined to obtain a Bayesian estimation of the internal sales model, further wherein said econometric engine clusters said plurality of products into discrete sets of related products whereby each said set is made up of highly substitutable related products, with the motivation of processing a particular optimization technique to determine prices.

As per claims 7 and 8, none of the prior art listed discloses wherein the Bayesian model is a Bayesian Shrinkage model or where the Bayesian Shrinkage model is a multi-stage model, but does disclose utilizing demand models to optimize prices in the abstract, lines 1-5.

Official notice is taken that it is old and well known in the art for Bayesian models to be Bayesian Shrinkage models and for the Bayesian Shrinkage models to be multi-stage models. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the Bayesian models to be Bayesian Shrinkage models and for the Bayesian Shrinkage models to be multi-stage models with the motivation of using these types of models to effectively come up with optimization results through a step-by-step process.

As per claim 9, Ouimet et al '641 fails to disclose wherein the econometric engine provides demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions, but Ouimet et al '641 does disclose using demand models to create optimized outputs in the abstract, lines 1-17.

However, Ouimet et al '893 discloses:

wherein the econometric engine provides demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions, (Col. 13, lines 49-55, [item-specific coefficients]). Ouimet et al '893 discloses this limitation in an analogous art for the purpose of showing that coefficients for specific items can be used to optimized prices.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide demand coefficients to the optimization engine, the demand coefficients used for estimating demand given market conditions with the motivation of utilizing coefficients to convert optimized figures according to certain conditions.

As per claim 10, Ouimet et al '641 discloses:

wherein the market conditions include a price point, (col. 7, lines 44-48, [price point]).

As per claim 11, Ouimet et al '641 fails to disclose wherein the econometric engine divides the plurality of products into a plurality of discrete sets of related products whereby each said set is made up of highly substitutable related products, further, where at least one of said demand groups has at least two of said products in said at least one demand group, but does disclose utilizing demand models to predict prices in the abstract, lines 1-5.

However, Ouimet '893 discloses wherein the econometric engine divides the plurality of products into a plurality of discrete sets of related products whereby each said set is made up of highly substitutable related products, further, where at least one of said demand groups has at least two of said products in said at least one demand group, (Col. 5, lines 57-64, shows items or products are analyzed according to a given group, also, col. 8, lines 28-38, shows market is broken into well defined groups, w/ col. 10, lines 27-37, shows sales of one item can depend on the sales of other items which lead to the demand for each item in a given group). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that groups are used to determine demand.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to divide the plurality of products into a plurality of discrete sets of related products whereby each said set is made up of highly substitutable related

products, further, where at least one of said demand groups has at least two of said

products in said at least one demand group with the motivation of optimizing models

according to categories.

As per claim 12, Ouimet et al '641 fails to disclose wherein the econometric

engine generates a model for determining the fraction of internal sales of each discrete

set of related products made up by each product, but does disclose utilizing demand

models to predict prices in the abstract, lines 1-5.

However, Ouimet '893 discloses:

wherein the econometric engine generates a model for determining the fraction

of internal sales of each discrete set of related products made up by each product, (Col.

8, lines 9-13, shows demand parameter can depend on the degree to which the relative

portion of the sales history is free of noise where the relative portion is analogous to the

fraction of internal sales, w/ col. 8, lines 35-37, [maximize market share by using

demand model]). Ouimet '893 discloses this limitation in an analogous art for the

purpose of showing that market share can be modeled and maximized by using the

demand model.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to generate a market share model for said products in said

demand group with the motivation of determining market shares according to

categories.

As per claim 13, Ouimet '641 discloses:

Wherein the econometric engine determines an internal sales model for each discrete set of related products so that the optimization engine is able to calculate demand for said products, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price], w/ col. 8, lines 23-29, shows visibility model based on sales is constructed for prices in a particular store, thereby making these sales internal);

Ouimet '641 fails to disclose the following, but does disclose utilizing demand models to predict prices in the abstract, lines 1-5.

However, Ouimet '893:

the fraction of sales of each discrete set of related products made up by each

said product with the internal sales model for the discrete set of related products,

(Col. 8, lines 9-13, shows demand parameter can depend on the degree to which the relative portion of the sales history is free of noise where the relative portion is analogous to the fraction of internal sales.]). Ouimet '893 discloses this limitation in an analogous art for the purpose of showing that a fraction or portion of the market share can be modeled and maximized by using the demand model.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to create a model for determining the fraction of internal sales of each discrete set of related products made up by each product for said time period with the motivation of determining a fraction or portion of market shares according to categories.

Neither Ouimet '641 nor Ouimet '893 disclose multiplying, but Ouimet '641 does disclose utilizing demand models to predict prices in the abstract, lines 1-5.

However, Ouimet '162 discloses:

Multiplying, (col. 2, lines 15-17, [shown that the primary objective function is combined with the constraint function and multiplied by a weighing factor, resulting in an optimized objective function, w/ Col. 4, lines 2-14, [shows that market share is the primary objective function and is multiplied by a factor to get maximized gross profits, in this case, this calculation is analogous to multiplying in the claim limitation since they both yield an optimized result]). Ouimet et al '162 discloses this limitation in an analogous art for the purpose of using a multiplication factor to yield optimized results.

It would have been obvious to one of ordinary skill in the art tat the time of the applicant's invention to determine an internal sales model for each discrete set of related products so that the optimization engine is able to calculate demand for said products by multiplying the fraction of sales of each discrete set of related products made up by each said product with the internal sales model for the discrete set of related products to which the product belongs with the motivation of determining an optimized solution.

As per claim 16, neither Ouimet '641, nor Ouimet '893 disclose the following, however, the following is obvious with Hartman since Hartman discloses Bayesian modeling used for optimization in the Abstract, lines 1-4. Also, in col. 10, lines 10-21, it is shown that in using the Bayesian ensemble, when optimization occurs, the requested functions and derivative values are used in the optimization value and a single optimal value is output at the completion of all optimizations, thereby ensuring that the final value is computed at the completion of optimization, by using only those values

requested for that single model only. In this case, and in a case where values are

missing, these values will already be known for this particular model:

Wherein said econometric engine further comprises an imputed variable

generator for providing imputed econometric variables to the optimization engine, the

imputed econometric variables used for estimating missing or incomplete product

parameters.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention for the econometric engine to further comprise an imputed variable

generator for providing imputed econometric variables to the optimization engine, the

imputed econometric variables used for estimating missing or incomplete product

parameters, with the motivation of computing optimized values based on values only

requested for a particular model.

6.   Claims 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ouimet et al (US 6,094,641) and further in view of Ouimet et al (US 6,078,893), and

further in view of Bhattacharya, (US 4,907,170).

As per claim 14, neither Ouimet et al '641, nor Ouimet et al '893 disclose the

following, but Ouimet et al '641 does disclose utilizing demand models to predict prices

in the abstract, lines 1-5.

However Bhattacharya discloses:

wherein said econometric engine further comprises an imputed variable

generator for providing imputed econometric variables to the optimization engine, the

imputed econometric variables used for estimating missing or incomplete product

parameters, (Col. 5, lines 36-49, shows structure that infers missing information and in

turn produces outputs within a specified degree of accuracy). Bhahacharya discloses

this limitation in an analogous art for the purpose of showing that missing data can be

accounted for in an econometric environment.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to further comprise an imputed variable generator for providing

imputed econometric variables to the optimization engine, the imputed econometric

variables used for estimating missing or incomplete product parameters with the

motivation of showing that missing values can be replaced with values when utilizing an

econometric engine.

As per claim 15, Ouimet '641 discloses:

receiving raw econometric data, (Col. 6, lines 29-67, inputs price p and base

units);

Neither Ouimet et al '641, nor Ouimet et al '893 disclose the following, but

Ouimet et al '641 does disclose utilizing demand models to predict prices in the

abstract, lines 1-5.

However Bhattacharya discloses:

detecting product parameter inconsistencies in the raw econometric data;

correcting the detected inconsistencies in the raw econometric data to generate a

cleansed initial dataset; and generating imputed econometric variables using the

cleansed initial dataset, (Col. 5, lines 36-49, shows structure that infers missing

information and in turn produces outputs within a specified degree of accuracy).

Bhahacharya discloses this limitation in an analogous art for the purpose of showing

that missing data can be accounted for in an econometric environment.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to detect product parameter inconsistencies in the raw econometric

data, to correct the detected inconsistencies in the raw econometric data to generate a

cleansed initial dataset, and to generate imputed econometric variables using the

cleansed initial dataset, with the motivation of showing that missing values can be

replaced with values when utilizing an econometric engine.

Response to Arguments

7.   Applicant's arguments filed 10/19/06 have been fully considered but they are not

persuasive.

As per claim 1, applicant argues that neither Ouimet et al '641, nor Ouimet et al

'893 teach nor suggest modeling internal sales by clustering highly substitutable related

products into sets for modeling, and thus the set of related highly substitutable products

sales model, and internal market share model, but rather generates a demand model for

individual products (not product sets) and then uses external market information to

correct for noise in the product demand model. Although prior art used does generate a

demand model, it not only does so for individual products, but does so for product sets

through grouping. Specifically, Ouimet '893 discloses that items or products are

analyzed according to a given group, as seen in col. 8, lines 28-38. Here, Ouimet '893

shows that the market is broken into well defined groups for the selection of a model. In

this case, since products are analyzed according to a given group, then once can

conclude that the market is broken down according to product groups for selecting a

model. With respect to the internal argument, both references teach that external

market information can be introduced to stabilize the tuning of the demand model.

However, Ouimet '893 specifically discloses that a user selects a demand model and a

market model, and that the market model describes how some of the parameters of the

demand model behave according to external market information. This proves that at

least some of the parameters of the demand model (before tuning) is represented by

internal data.

As per claim 5, the applicant presents arguments similar to those of claim 1

discussed above. Claim 5 is therefore rejected for the same reasons as discussed

above with respect to claim 1.

As per claim 4, the applicant presents arguments similar to those of claim 1

discussed above. Claim 4 is therefore rejected for the same reasons as discussed

above with respect to claim 1.

As per claim 2, applicant argues that prior art does not teach **wherein said**

strategy implementation module is a natural language based rules engine which

translates said price limiting strategic considerations into rules used by said

price calculator. However, Ouimet '893 discloses that simple rules-based approaches

are known in the art in col. 1, lines 32-35, therefore, the use of natural language based

rules is obvious since the natural language based rule is a simple rules-based

approach.

Applicant also argues that Ouimet '162 do not optimize the decision to maximize

an objective such as a profit or revenue, but instead activate a set of pre-defined rules

to generate an action. However, Ouimet '162 presents pricing methods where the

original demand model is modified to include a mechanism to convert actual prices into

perceived prices, thus causing the demand model to predict higher demand for certain

prices. The user specifies the function that converts from real prices to perceived prices

and this modified demand function is then fitted to a sales history to yield the

parameters appropriate to its particular form. Although an action is being taken, this

action is taken with the motivation of using models to optimize prices as shown in the

abstract, lines 16-17.

As per claim 6, the applicant presents arguments similar to those of claim 1

discussed above. Claim 6 is therefore rejected for the same reasons as discussed

above with respect to claim 1.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Akiba K Robinson-Boyce whose telephone number is

571-272-6734. The examiner can normally be reached on Monday-Friday 9am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Hayes can be reached on 571-272-6708. The fax phone numbers for

the organization where this application or proceeding is assigned are 703-746-7238

[After final communications, labeled "Box AF"], 703-746-7239 [Official Communications],

and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

A. R. B.
November 14, 2006